

ABSTRACT

[0076] Reactive atom plasma processing can be used to shape, polish, planarize and clean the surfaces of difficult materials with minimal subsurface damage. The apparatus and methods use a plasma torch, such as a conventional ICP torch. The workpiece and plasma torch are moved with respect to each other, whether by translating and/or rotating the workpiece, the plasma, or both. The plasma discharge from the torch can be used to shape, planarize, polish, and/or clean the surface of the workpiece, as well as to thin the workpiece. The processing may cause minimal or no damage to the workpiece underneath the surface, and may involve removing material from the surface of the workpiece.